

## **TROPICAL RAINFALL MEASURING MISSION**

**May 28, 2001 - June 3, 2001**

**DOY 148 - 154**

**Day of Mission 1278 - 1284**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the -X Forward direction as of May 25<sup>th</sup> (01-145) at 06:43:59z.
- Yaw maneuver #58 to +X Forward is currently scheduled for June 08<sup>th</sup> (01-159).
- Delta-V #312 is scheduled for June 5<sup>th</sup> (01-156), using the ISP thrusters.
- The Beta angle range for 01-155 to 01-161 is  $-11.2^{\circ}$  to  $9.0^{\circ}$ .
- The next Monthly Status Review (MSR) is scheduled for June 27<sup>th</sup> (01-178).
- The next Configuration Control Board (CCB) meeting is scheduled for June 7<sup>th</sup> (01-158).
- The first 400 km Boost planning meeting is scheduled for June 6<sup>th</sup> (01-157).

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System (ACS)**

01-148 (Monday, May 28<sup>th</sup>)

Delta-V maneuver #310 was successfully conducted at 14:58:00z and 15:45:00z for durations of 37.000 and 23.250 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burns 1 and 2 was 38.8% and 34.4% (61.2% and 65.6% on time). The remaining fuel is 412.277 kg, the current GN2 pressure is 703.125 psia, and the final apogee and perigee height is 354.75 km x 347.47 km.

01-152 (Friday, June 1<sup>st</sup>)

Delta-V maneuver #311 was successfully conducted at 14:59:39z and 15:45:26z for durations of 37.250 and 23.000 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burns 1 and 2 was 39.6% and 34.8% (60.4% and 65.2% on time). The remaining fuel is 410.873 kg, the current GN2 pressure is 689.062 psia, and the final apogee and perigee height is 354.87 km x 347.50 km.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The UTCF was adjusted on 01-154 by  $-893.0 \mu\text{s}$ . The new value is 31535996.823784 seconds and the current drift value is  $0.0 \mu\text{s}$ . The Frequency Standard remains at x'7C6' with a current drift rate of  $-1.82 \mu\text{s/hr}$ .

#### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

#### **Power Subsystem**

The Power subsystem performed nominally during this period.

01-150 (Wednesday, May 30<sup>th</sup>)

If the PSIB experiences further telemetry degradation (See AR# 83), then the Power system will be configured from Constant Current Mode to Peak Power Tracking and the PSIB will be removed from the control loop. Currently, Peak Power Tracking charges the batteries with a peak current of 30-35 Amps, which causes Battery 2 Cell 1 voltage to rise near the gassing potential. To limit the peak current, the Solar Arrays will need to track the sun with an offset. A Solar Array off-pointing test was needed to determine the exact power profile prior to losing telemetry. On 01-150, such a test was conducted at Beta angle -11°. For 2 consecutive orbits, the Solar Array tracked between the +/-50° stops off-pointed by 55°. No problems were experienced. Similar tests at Beta angle 58° and 26° are planned for June/July in order to fully characterize the power profile should this ever be needed.

### **Electrical Subsystem**

The Electrical subsystem performed nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem performed nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

### **RF/Communications Subsystem**

The RF/Communications subsystem performed nominally during this period.

## **SPACECRAFT INSTRUMENTS**

### **CERES**

01-149 (Tuesday, May 29<sup>th</sup>)

A final elevation gimbal test was performed, then CERES was powered off.

### **LIS**

The LIS instrument performed nominally during this period.

### **PR**

The PR instrument performed nominally during this period.

The PR instrument performed nominally during this period. The list of Internal Calibration times over Australia in which PR was not radiating is shown below:

2001:148/14:07:24z – 14:09:48z	2001:152/18:59:59z – 19:02:10z
2001:148/20:37:40z – 20:39:54z	2001:153/11:18:01z – 11:23:06z
2001:149/21:00:30z – 21:02:37z	2001:153/19:23:29z – 19:25:00z
2001:150/19:49:02z – 19:51:14z	2001:154/18:11:28z – 18:13:38z
2001:151/12:07:58z – 12:11:36z	
2001:151/20:11:36z – 20:13:43z	

## **TMI**

The TMI instrument performed nominally during this period.

## **VIRS**

The VIRS instrument performed nominally during this period.

## **GROUND SYSTEM**

The Release 9.1 patch was installed in the SOTA bay and will be installed on Strings 2 and 3 next. After final checkout, 9.1 will then be made operational on String 1, thereby completing final installation on all strings.

The test to verify Forward link capability in SOTA-7 using the new multi-sat SCD and fiber optic line configuration was postponed until next week.

PACOR-A parallel operations continue. The PACOR-A ORR is still scheduled for June 13th.

## **Event Reports**

No new event reports occurred during this period.

## **Generic Late Acquisition Reports (for TTRs 19639)**

No generic late acquisitions occurred during this period.

## **New Anomalies**

No new anomalies occurred during this period.

## **Recurring/Open Anomalies**

No open anomalies recurred during this period.

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